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AUTHOR Burstein, Leigh
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ABSTRACT

The author contends that the secondary analyst may have a different perspective and theoretical persuasion than the original investigator, may have the advantage of more current theory and practices than those originally available, may move beyond the substantive and methodological limitations of the original investigation, and may not be faced by the original time or funding constraints. Using existing data sets in the training of researchers also allows students to address problems relevant to their work without the need to devote enormous amounts of time to the collection of data. Secondary analysis may affect student interest in a field of research, and may expand opportunities to interact on topics of mutual interest. (Author/MV)

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SECONDARY ANALYSIS: AN IMPORTANT PROCEDURE FOR EDUCATIONAL RESEARCH*

Leigh Burstein
University of California, Los Angeles

as part of a Symposium on
Secondary Analysis of Existing Data Sets:
For What Purposes and Under What Conditions

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ABSTRACT

This paper was presented as part of a symposium on Secondary analysis and existing data sets: For what purposes and under what conditions? It addresses the purposes of secondary analysis, including advantages from the perspective of research, the training of researchers, and the development and support of colleagial relationships. Secondary analysis can contribute to knowledge because it has the potential to consider data sets without some of the limitations, or with a different set of limitations, than those encountered by the original investigator. Thus, the secondary analyst may have a different perspective and theoretical persuasion than the original investigator, may have the advantage of more current theory and practices than were available at the time of the initial research, may move beyond the substantive and methodological limitations of the original investigation, and may not be faced by the additional constraints, such as time, encountered in the original study.

The use of existing data sets in the training of researchers allows students to address problems which they will encounter in their work without the need to devote enormous amounts of time to the collection of data. The effect of secondary analysis on the development and support of colleagial relationships, on the encouragement of interest in a field of research, on the development of opportunities to interact or topics of mutual interest are also discussed.

The paper concludes with recommendations that secondary analysts assume the same legal and ethical responsibilities for confidentiality and anonymity as the original investigators and that the funding agencies accept responsibility for ensuring that an adequate data bank is created at the end of the original contract by allocating funds and including contract language specifically for that purpose.

Secondary analysis involves "the re-analysis of data for the purpose of answering the original research question with better statistical techniques or answering new questions with old data" (Glass, 1976, p. 3, emphasis added). The many reanalyses of the data from the Coleman Report (Bowles and Levin, 1968; Coleman et al., 1966; Levin, 1970; Mosteller and Moynihan, 1972; Wiley and Harnischfeger, 1974) perhaps provide the best known social science examples of secondary analyses though reanalyses of the Head Start Data (Cicirelli et al., 1969; Smith and Bissell, 1970) and of the data from Pygmalian study (Elashoff and Snow, 1970; Rosenthal, 1968) have had equally profound impact on some segments of the educational profession.

If recent history holds true, and if interpretations of recent rights to privacy and confidentiallity legislation do not preclude such endeavors, we can expect to see every major social science investigation with policy consequences followed up by a series of secondary analyses attempting to clarify or to dispute original findings. This has happened recently, for example, with Coleman's research on white flight (See e.g., Coleman, 1975; Green and Pettigrew, 1976; Jackson, 1975) and in the evaluation of the Early Childhood Education program financed by the State of California (see e.g., Acland, 1976; Baker, 1977; California State Department of Education, 1975, 1977; Keesling and Burstein, 1977). The National Institute of Education is currently supporting a Secondary Analysis Project directed by Bob Boruch and Paul Wortman as part of the Evaluation Research Program at Northwestern University.

Until recently, it would have been difficult to convince me that the virtues of secondary analysis needed elaboration for an organization composed of researchers and professional educators. I thought that the advantages of this type of research were so obvious that no justification was required. However, it turns out that what is obvious is that I was and remain extremely naive. Fellow researchers, as well as practitioners

and interested public, dispute both the value of secondary analysis and the "right" of access to data by persons other than the original collectors. The latter objection is raised whether the followup analyses are directed toward reexamination of the original conclusions or toward an entirely different question.

Background and Context

As other panelists (Powell, 1977) will describe, the idea for this symposium grew out of the deliberations regarding rules for access to the data from the Beginning Teacher Evaluation Study (BTES) commissioned by the California Commission for Teacher Preparation and Licensing (CCTPL) with funds from the National Institute of Education (NIE). These data were collected by staff from the Educational Testing Service (ETS) and the Far West Laboratory for Educational Research and Development (FWL) in an effort to assess those aspects of the teaching process which interact with student characteristics to yield educational performance. Information was collected via tests, questionnaires, interviews, and classroom observations from pupils, their teachers, and their school administrators. Several of the most respected researchers in the field of teacher behavior participated in the studies resulting in procedures and practices in data collection and analysis that reflected the "state of the art" in the profession at the time the studies were proposed.

Once having stated the above, I want to quickly add that, in my estimation, the results already reported and yet to be reported by ETS and by FWL are inherently incomplete and perhaps inconclusive. This judgment is not meant to reflect on the original investigators; it is merely a statement of the nature of process in educational research. The discussion that follows should clarify why I believe that the above is the case.

One personal note will help to clarify further the basis for my paper.

I have been fortunate to serve as a member of the Research Advisory Board for the BTES study for the past two years. My special area of expertise and, presumably the primary reason for my appointment to the board, is quantitative social science research methodology. My continuing professional commitment is to explore and develop more adequate methods for analyzing social science data and to train others to do the same.

The BTES data represent a gold mine of possibilities for exploring alternative methodological approaches and for training students to generate and examine their own theories about the nature and consequences of teacher-learner processes. With the above in mind, and with the encouragement of David Berliner and his staff at FWL, last February, I requested from the Commission access to the FWL BTES data for use in seminars at UCLA. There was also an implicit understanding that FWL and the Commission could potentially benefit from any promising results from our work with the data. Unfortunately for me, my letter set off an extended debate among the members of a panel established by the Commission to establish rules for access to the data and to decide the merits of specific requests. Over a year later, the panel has yet to decide whether I can have access to the data.

I was initially irate over the treatment that I received. However, I eventually realized that the panel's objections were not directed solely at me but were based, at least in part, on disputes about abstract general principles for access that the panel was and, perhaps still is, unable to resolve. It is my hope that the presentations today and the profession's responses to them will not only lead to agreement about rules of access to the BTES data but contribute to the development of rules of access that will be applicable to a wide variety of existing and future data sets.

My specific role in this symposium is to state, in as clear a fashion as I am able, the reasons why secondary analysis is an important procedure in educational research. I submit that if valid, my reasons in support of secondary analysis apply for the most part to its use in educational evaluation. I shall try to speak as an educational researcher/evaluator, both substantive and methodological; as a teacher and trainer of educational research and evaluation methods; and as a professional interested in improving his own understanding of the profession and in advancing the profession through colleagual interaction and idea exchange. Like Glass (1976) but unlike Cook (1974), I will focus strictly on the advantages and merits of secondary analysis. As I see it, except for the fact that the information cannot be recollected nor its collection reconstructed, the limitations and disadvantages in the practice of secondary analysis are the results of the humanness of its practitioners, i.e., their competence and their integrity, and of its subject matter, data from people.

Assumptions

I would like to state three basic assumptions about secondary analyses before I extol the virtues of their contributions.

1) Secondary analysts are professionally competent to carry out their work;
2) Secondary analysts have professional integrity in the conduct of their work;
3) Secondary analysts universally support the protection of the anonymity (freedom from personal identification) of individual subjects.

The above are considered assumptions because an absolute valid and unchallengeable test of their veracity cannot be identified.

First we have to assume competence before the fact (i.e., before the secondary analysis is reported) because we have no standard by which to define incompetence nor for that matter, persons sufficiently impartial and competent to serve as judges. Moreover, the quality of the secondary analysis report is not a sufficient basis for judgment. Disagreements about appropriate standards for measuring competence and about persons qualified to judge competence would occur in any assessment of the quality of the report. Unanticipated complications in the conduct of the secondary investigation (e.g., lack of cooperation) may have a greater bearing than competence on report quality.

The difficulty of defining standards, of finding persons objectively qualified to act as judges of standards and of judgment by examination of the product rather than the intent, also apply to the question of professional integity. It is unlikely that any secondary analyst would admit either malicious intent or lack of integrity. Thus, restricting access because of a secondary analyst's supposed lack of professional integrity would place the persons responsible for access decisions in the intolerable position of judging publically the ethics of fellow professionals. I do not think that social scientists will accomplish anything by restricting access of other social scientists on the basis of inferences about their motives. We have to presume innocence rather than inferring guilt without evidence to the contrary.

Finally, by its very nature, research seeks to summarize and synthesize masses of data to achieve replicable findings. There are sound technical reasons why the secondary analyst needs access to data in its most disaggregated form -- usually a set of measures on each specific subject . There is no reason, however, for a secondary analyst, who is not engaged in follow-up data collection and verification, to want to

personally identify any specific individual. In fact, knowledge of an individual's specific identity can be a burden if such information would subject the secondary analyst to pressure from political influences and/or to questioning from law enforcement or legal agencies.

Persons who argue protection of privacy as a reason for denying access to data often point out that with enough information, individual units, (e.g., pupils teachers, schools, etc.) can be isolated and thereby identified by the secondary analyst though the original investigator legally contracted for anonymity with the subjects. This objection is raised disproportionately to the magnitude of the problem. In the first place, it is highly unlikely that the secondary analyst can identify a specific case even if it can be isolated without a substantial amount of demographic information on every unit and a unit of a specific type occurs infrequently in the population from which the study sample is drawn. Second, as professionals on the one hand, and often as public servants (i.e., federally supported research), on the other, the original investigators should have to communicate to their subjects that the protection of anonymity does not preclude the use of the data for further studies so long as the parties engaged in secondary analysis adhere to the same contractual arrangements regarding anonymity as the original investigators. I am suggesting that original investigators take a more long-range view of potential uses of data than they typically do now.

My assumptions of competence, integrity and the desire to protect subjects' anonymity perhaps provide a basis for some individuals to discount anything else I might have to say. If so, that is unfortunate. I would urge you at least to consider the merits of the specific points raised in support of secondary analysis and accept or reject either specific or general principles regardless of your personal agreement with their presenter.

Secondary Analysis as a Potential Contribution to Knowledge

It seems that social scientists will forever be confronted by demands from the other professionals and practitioners to know why we "need to know". Furthermore, unless the questioners operate by the same rules as we do, we will always respond with a less than satisfactory answer. After all, our science involves the study of the behavior of human beings, a most unpredictable subject matter.

Secondary analysis can contribute to knowledge because it has the potential to consider important questions without some of the limitations, or with a different set of limitations, than those encountered in the original investigation. The conduct of empirical work in the social sciences invariably requires a sequence of decisions that successively narrow the focus of the study. Investigators make these decisions on the basis of (a) perspective and theoretical persuasion, (b) psychological distance from the phenomenon under investigation, (c) current theory and practice, (d) substantive and methodological competencies of the researcher, and (e) incidental complications such as time, economic and psychological constraints. Below we elaborate on the role of each of the reasons for decisions and how secondary analyses can potentially reduce the severity of each of these limitations.

Theoretical Perspective. There is no such animal as a value-free, objective social science researcher/evaluator/decision-maker. Social scientists all exhibit implicit or explicit perspectives. Some are quantitative-data oriented; others use only qualitative techniques. Some quantatively oriented researchers are experimentalists; others favor naturalistic quasi-experiments or non-experiments. The profession contains behaviorists and humanists; psychologists, economists, sociologists, anthropologists and so on, and so on.

Different social scientists use different screens and filters to examine human behavior. It is highly unlikely that an original investigation can incorporate all potentially relevant viewpoints. Thus one value of secondary analysis is that it allows us to determine whether persons from potentially different perspectives can arrive at similar conclusions if the same questions are considered or can answer different questions from the same data. If conclusions across investigations conflict, the audience of the original study has obtained the interpretations from alternative viewpoints which can only clarify the difficulties in basing decisions on the original report. While decision makers may be discomforted by conflicting evidence, the presence of such evidence places the burden of choice among alternatives in the proper place -- on reasoned and informed thinking by persons with the responsibility for the decision.

Psychological Distance. The term psychological distance refers here to the degree to which the researcher becomes immersed in the phenomena under study. The nature of the research process seems to dictate that persons developing a theory and testing it empirically tend to become very close to "their problem". My personal experiences attest to this. I can rarely consider a research study without thinking about units of analysis issues. By becoming immersed in a problem, one invariably overlooks what "seem" to be peripheral questions. Eventually, perhaps, one unintentionally avoids interpreting potentially complicating evidence.

It is important to distinguish the question of psychological distance from the question of objectivity. The original investigation may have internal objectivity, i.e., it may adhere to accepted methods for interpreting evidence objectively even when the analyst circumscribes the research foci. However, lack of psychological distance invariably limits the external objectivity of the investigation since potentially relevant evidence is excluded from consideration.

A secondary analyst may not suffer from the "closeness to the data" that could have affected the conclusions of the original investigator(s). (S)he may "see" evidence which substantiates, elaborates, or refutes the interpretations of the original analyst. At the same time, however, the secondary analyst may suffer from "distance". (S)he may overlook or misinterpret important information simply because her/his interest in the problem is less intense than the original analysts' or because (s)he was not around when the study was originally conducted.

So, again, we arrive at a dilemma. The argument for secondary analysis is that the original investigators were too immersed to make externally objective judgments of their own findings. Yet, we acknowledge that secondary analysts may be too distant from the original study's nuances to recognize the "truth" when they see it. And, once more, our response is to favor the potential of multiple perspectives to clarify the original findings.

Current Theory and Practice. The BTES study has been in operation for over six years. It will be another few years before its results receive any wide dissemination. Thus, most of the findings disseminated will be based on the substantive and methodological theories and practices of the early 1970's, while any policies based on the findings will not take effect until the 1980's. By then we may conclude that the theory and practice in existence at the time of the original data collection and interpretation were too obsolete for application to prevailing practice. Or, in a less extreme case, the authors simply failed to focus on issues that became salient after the study was completed.

The point is that the advancement of knowledge is continual. Furthermore, the advances in theory and methodology in the social sciences have accelerated recently, perhaps due to the rudimentary state of our earlier knowledge. With some notable exceptions, individual researchers'

places in the history of the discipline are too fleeting to insist that their theories be accepted in perpetuity. Even those theorists who survive time (e.g., Piaget, Dewey, Freud, Sewall Wright) do so only through modifications and clarifications of the original thinking.

Two examples of methodological advances provide substance to my points. The multitrait-multimethod validation strategy proposed by Campbell and Fiske (1959) revolutionized empirical construct validation. The actual examples they reported were all secondary analyses.

Though Campbell and Fiske's theories remain relatively intact, the analytical techniques currently used in multitrait-multimethod validation have been greatly enhanced by application of structural equations methods (Blalock, 1964; Goldberger, 1972; Goldberger and Duncan, 1973). These methods originated from an agronomist by the name of Sewall Wright (see e.g., 1934) for making inferences from non-experimental data. Wright's work was first picked up by economists from whom the other social sciences are following suit.

There are many recent educational examples of the application of structural equations methods. In fact, McDonald and his colleagues (McDonald and Elias, 1975) used path analysis, one of the rudimentary forms of structural equation methods, in their Phase II BTES study. It is obvious, however, that though the McDonald study represented a methodological advance beyond previous educational treatments, the investigators could not have satisfied some of the assumptions of path analysis (e.g., recursiveness) using the BTES data. A more general model (simultaneous equation methods; see Levin, 1970 for a simplified example) might have led to different conclusions.

The specifics of the examples above are not crucial, but the underlying themes are. Secondary analyses of data can provide substantive and

methodological anchors with the past and speedier routes to the future We have neither the time nor the money necessary to conduct a new Coleman study or BTES study every time someone offers a new theory of educational effects or a new methodology for identifying them. We at least need to allow such persons to try out their ideas in the context of existing data sets before we decide to support massive new data collection with the possibility of repeating the cycle of obsolescence.

Substantive and Methodological Competencies of Researchers. Secondary analyses can avoid limitations of the original investigation that result from the specific substantive and methodological competencies of the original researchers. This purpose presumes that secondary analysts bring a different set of skills to bear on the data, and thus produce studies with a different set of strengths and limitations. That is, I want to make a case for secondary analysis on the grounds of what I call "aptitude-specialization interaction" or some of us do some things better or worse than the rest of us.

The BTES study serves as a prime example of the value of alternative approaches by researchers with different strengths. One researcher, e.g., the original data collector, may be interested in the effect of academic learning time (ALT) on pupil performance and the antecedents of ALT. Another researcher may be concerned with the implications of ALT for preservice teacher training; and yet another with the educational contexts in which ALT can be increased or perhaps will not work. The above are all conceptual and policy questions of a substantive nature requiring different talents to investigate.

At the same time, persons well-grounded in substantive areas under study may not possess the methodological skills to analyze the data to the fullest (David Berliner would have about as much luck teaching struc-

tural equation methodology classes as I would with introductory educational psychology. We would both be like fish out of water). Yet if social science research is to advance, we need both types of people looking at the same kinds of data. As a quantitative research methodologist who has devoted several years to the identification of appropriate strategies for analyzing educational data from students contained within classrooms within schools (analysis of multilevel data), I would be lost without access to real data which I did not have the time, money, energy or talent to collect. It would be a shameful waste of resources for me to be forced to collect my own data given my limited substantive interest and data collection skills. And, if real data were unavailable to me and I, thus, stuck strictly to analytical or computer simulated treatments, I could rightfully be accused of being too esoteric and unrealistic and be considered of little help to the substantive researchers trying to improve their methodology. This is a common "catch 22" for methodologists.

One more point about individual differences in talent. Along with research management, instrument development, data collection and data reduction are perhaps the most difficult and underrated aspects of the research enterprise. They require extremely careful, competent, organized individuals, traits which are not necessarily part of the repertoire of researchers, present speaker included. At the same time, the instrument developers, data collectors and data reducers are not necessarily the best theorists and analysts. (As an aside, I would surmise that with rare exception, good quantitative research methodologists are strong on quantitative analytical and critical skills and weak in ability to conduct their own project from start to finish).

This comment on the value of data collection and reduction was precipitated by angry exchange with a friend and colleague who had just

completed what was described by her faculty mentors to be an outstanding empirical dissertation on aptitude treatment interactions in classroom research. Having too quickly forgotten my own post-dissertation trauma, I insensitively quizzed her about the analysis strategies she used and asked if I could take a look at her data. Her testy though understandable response was "No. Collect your own data." I was a bit flabbergasted, but finally caught on that my pointed questioning was ill-timed and inappropriate. We have not discussed the point recently, but I would hope that she would agree that we all have our limits and I learned early that a great data collector I am not, nor need I ever be.

Incidental Complications. This point focuses on the "incidental" complications of investigations such as the details about the timing, the financing, and the psychological health of a research project. Secondary analyses can reduce the impact of each of these limitations on the original investigation.

1) Time Constraints. Most research, especially large-scale studies have time lines that must be followed. Phase IIIA of BTES had to be completed to secure funding for Phase IIIB. Phase IIIB must yield results within a certain time frame to allow meaningful dissemination. The Coleman study had a congressional deadline to meet which forced early decisions regarding conclusions to be presented in the report. Allowing access to data for secondary analyses extends the time for research at, perhaps, a more leisurely pace which may clarify original findings.

2) Economic Constraints. The well does run dry. There is usually only so much money for the original investigation. No amount of economic pre-planning can take into account all the analyses that "might have been run but were not financially practical". Secondary analysis provides a fresh influx of capital for further data examination.

3) Psychological Constraints. If the lack of sufficient time and money were not enough trouble, original investigators often suffer from motivation lapse and mental fatigue in the latter stages of projects. From start to finish, Dave Berliner and members of his staff will have devoted over five years of their life to securing funding for, developing ideas for, collecting analyzing data for, and talking about BTES. It is difficult to maintain a high level of sharpness and motivation over so long a period. As invariably happens, some things will slip through the cracks toward the end.

It will take motivated, mentally alert people coming to the BTES data fresh to use it to its fullest. Secondary analysis supplies the human resources for this fresh start.

Secondary Analysis for Research Training and Education

I have belabored the arguments for secondary analysis as a contribution to knowledge because its value in such a context is both fundamental and controversial. Though less controversial, the role of secondary analysis is also fundamental to the training of educational researchers and practitioners. In fact the reanalysis and reexamination of original investigations is perhaps more ubiquitous to training than to research per se.

Speaking as a quantitative methodologist in the social sciences, it is extremely difficult (perhaps impossible) to train either discipline-based students or our own students in quantitative methods without resorting to realistic examples and real data sets. Quantitative methods are of practical importance to doctoral students in, say, special education as they need experience analyzing data of the type they encounter in their own research later on. Doctoral students in methodology also need realistic analytical experiences in a wide range of areas to mirror the kinds of problems for which they will be asked to provide methodology. Training in

quantitative methods is too small a part of graduate education to devote too much time to data collection and reduction. It is essential to have access to data of a variety of types for the training exercises.

The same holds for at least some empirical dissertations. For my own dissertation I needed data for a methodological illustration, and it would have taken an unnecessary extra year to finish if I had been required to collect my own data. One of our recent students at UCLA found himself in the same situation before finally obtaining some BTES data.

In my opinion, the secondary analysis of data in graduate education and dissertation research is an important and innocuous use of information collected by others.

Secondary Analysis as a Tool for the Development of Colleagiality and the Advancement of the Profession

In some ways my concluding comments in support of secondary analysis represent a return to my opening remarks. I started out by declaring my naivete about why there is a dispute over the value of secondary analysis as an enterprise. I am part of a profession in which the time demands preclude many chances for colleagial interaction. We simply have too few opportunities to exchange ideas on topics of common interest.

Secondary analysts are a ready-made pool of interested colleagues. They can generate communication among researchers, further professional interest in ideas important to the original investigators and help to develop people to carry on the original thrust of the research. It would be unfortunate if the personal concerns of original researchers, practitioners and policy makers were to deny us the opportunities to develop the profession through ethically conducted and informatively presented secondary analyses.

A Final Caveat: Rights of the Original Investigator

While I have emphasized the value of secondary analysis throughout my presentation, this does not mean that I fail to recognize its poten-

tially harmful side effects. The focus in the previous section on collegial exchange and the development of the profession does not adequately address an important concern of original investigators -- the right to be the first to report on the data collected. Regardless of the source of support for the research, original investigators can be reasonably expected to prefer to receive the recognition for their efforts. They may feel threatened by demands for early access merely because they have not had adequate time to examine their own data.

The rights to "first crack at the data" by the original investigator should be respected by secondary analysts of the type I have assumed. Adherence to the principle of integrity and collegiality demands no less from secondary analysts.

Unfortunately, defining a reasonable time standard for emminent domain is a complex problem. In the first place, pace of work is an important individual difference variable that delineates among researchers not subject to time constraints such as project deadlines. Moreover, the complexity of the question under consideration and the quantity and quality of the data have a strong effect on the amount of time needed for reporting.

Finally, there are research questions and research and training activities peripheral to the questions guiding the original investigation that would not infringe upon the rights of the original researcher. These efforts should not be hindered by denial of access as long as the added work demands on the original investigation are not excessive.

The above comments should be sufficient to dispel any thoughts about establishing an arbitrary time standard, such as one year, for domain. One would hope that professionals could work out matters among themselves without resorting to reading a rule book. Yet, it is an open

question whether the habits of "footdragging" by original investigators or "incessant meddlesomeness" by secondary analysts will jeopardize the opportunities for peaceful coexistence among professionals with regard to access to data questions.

Preliminary Recommendations for Future Studies

Though I have tried to provide strong justification for access to data for secondary analysis, I am reluctant to suggest a set of general rules to govern access. Obviously, different sets of constraints are needed depending on the nature and sensitivity of the requested information and on the circumstances governing its collection. Moreover, it is perhaps unwise to advocate general principles to apply to data from studies either in progress or already completed. I will, however, offer some steps that can be taken to ensure that access to data for secondary analysis become less of a problem for future investigations.

The key recommendations for future investigation for which secondary analyses are considered likely are that:

1) original investigators should anticipate the likelihood of secondary analysis whenever feasible, and
2) secondary analysts should be bound by the same confidentiality and privacy restrictions as the primary analysts and should be held legally responsible for any breach of ethics in the conduct of the secondary analysis.

To implement recommendation 1, original investigators will have to plan for and budget for data archiving. The development of well-documented data archives can be both a time-consuming and an expensive enterprise. Moreover, the personnel associated with the original investigation perhaps derive the least benefits. Therefore, the costs of archiving will need to be covered by the funding agency, preferably through the original contract

with the primary analyst rather than through subsidies to the secondary analyst who, in turn, pays the original investigator for services rendered.

The implementation of recommendation 2 would require modifications in the wording of contracts and participant consent forms. Such modifications should clearly indicate that (a) data collected may be used for specified multiple research and training pruposes, and if it is so used, (b) the secondary users are subject to the same legal and ethical obligations regarding confidentiality and privacy set forth for the original investigators.

If these two recommendations and similar ones were to become common practice, we could begin to resolve current difficulties surrounding access to data for secondary analysis. Perhaps then we could turn to the more insurmountable task of getting policy makers to use the results of both primary and secondary analyses more wisely and less politically.

REFERENCES

Acland, H. "A Policy Analysis of Reading Achievement in ECE Schools and Non-ECE schools." (mimeo) December, 1976.

Baker, E. The Evaluation of the Early Childhood Education Program. Vol. I. Center for the Stydy of Evaluation, University of California, Los Angeles, 1977.

Blalock, H.M. Jr. Causal Inferences in Nonexperimental Research. Chapel Hill, N.C.: University of North Carolina, 1964.

Bowles, S. and H. M. Levin. "More on Multicollinearity and the Effectiveness of Schools." Journal of Human Resources, 1968, 3: 2-24.

California State Department of Education. Evaluation Report of ECE, ESEA Title I, and EDY, 1975-76. Sacramento, CA., 1977.

California State Department of Education. Evaluation Report of ECE, ESEA Title I, and EDY, 1974-75. Sacramento, CA., 1976.

Campbell, D. T. and Fiske, D.W. "Convergent and Discriminant Validation by the Multitrait-multimethod Matrix." Psychological Bulletin, 1959, 56: 81-105.

Cicirelli, V.G., et al. The Impact of Head Start: An Evaluation of the Effects of Head Start on Children's Cognitive and Affective Development. Washington, D.C.: Office of Economic Opportunity, 1969.

Coleman,J.S.,S. D. Kelly and J. A. Moore. Trends in School Segregation, 1968-73. Washington, D.C.: The Urban Institute, 722-03-01, August 1975.

Coleman,J.S. et al. Equality of Educational Opportunity. Washington, D.C.: U.S. Department of Health, Education and Welfare, U.S. Office of Education, OE-38001, 1966, pp. 218-333.

Cook, T.D. "The Potential and Limitations of Secondary Evaluations," in Apple M.S., Subkoviak, H.S., and Lufler, J.R. (Eds.) Educational Evaluation Analysis and Responsibility. Berkeley, CA.: McCutchan, 1974, Chapter 6, pp. 155-234.

Elashoff, J. D. and R.E.Snow(Eds.) Pygmalian Reconsidered. Worthington, Ohio: Charles A. Jones, 1971.

Glass, V. "Primary, Secondary, and Meta-Analysis of Research." Educational Researcher, 1976, 5 (10): 3-8.

Goldberger,A.S. "Structural Equation Methods in the Social Sciences." Econometrica, 1972, 40 (6): 979-1001.

Goldberger, A.S. and O.D. Duncan (Eds.) Structural Equation Models in the Social Sciences. New York: N.Y.: Seminar Press, 1973.

Green,R.L.and T. F. Pettigreu "Urban Desegregation and White Flight: A Response to Coleman." Phi Delta Kappan, 1976, 57 (6): 399-402.

Jackson, G. "Reanalysis of Coleman's 'Recent Trends in School Integration'." Educational Researcher, 1975, 4 (10): 21-25.

Keesling, J.W. and Burstein, L. An Audit Report on the Activities of the State Department of Education Related to the Early Childhood Education Program. Los Angeles, CA: UCLA, Center for the Study of Evaluation, 1977.

Levin, H.M. "A New Model of School Effectiveness," in How Do Teachers Make A Difference, Washington, D.C.: U.S. Department of Health, Education and Welfare, Office of Education, Bureau of Educational Personnel Development (OE-58042), 1970, pp. 55-775.

McDonald, F.J. and Elias, P.J. The Effects of Teaching Performances on Pupil Learning, BTES Phase II Final Report, Educational Testing Service, 1976.

Mosteller, F. and D.P. Moynihan (Eds.) On Equality of Educational Opportunity. New York, N.Y.: Vintage Books, 1972.

Powell, M. "Necessary Steps to Insure Availability of Data for Secondary Analysis." Paper presented at the Annual Meeting of the American Educational Research Association, New York, April, 1977.

Rosenthal, R. and L. Jacobson. Pygmalion in the Classroom: Teacher Expectation and Pupils' Intellectual Development. New York, N.Y.: Holt, Rinehart & Winston, 1968.

Smith, M.S. and J.S. Bissell. "Report Analysis: The Impact of Head Start." Harvard Education Review, 1970, 40: 51-104.

Wiley, D.E. and Harnischfeger. "A. Explosion of a Myth: Quantity of Schooling and Exposure to Instruction, Major Educational Vehicles." Studies of Educative Processes, 1974, No. 8, University of Chicago. (Also: Educational Researcher, 1974, 3: 7-12.)

Wright, S. "The Method of Path Coefficients." Annals of Mathematical Statistics, 1934, 5: 161-215.